

D R A F T

9/7/61

Dear Dr. Lederberg:

Thanks to your careful thought and Dr. Montgomery's efficient transmission of problems and answers, I have gained the impression that considerable progress has been made in reaching common grounds of agreement as to how we might advise Dr. Berkner to fully capitalize on the opportunity presented for this new scientific educational resource. The challenge of how best to influence and advance scientific research and education throughout the Southwest has been vividly outlined for us by Dr. Berkner and his Trustees. Their willingness to support a major educational experiment in university cooperation as well as dramatically adding to the research potential of the Southwest is most gratifying.

The rapid advances of science made obsolete the traditional organization of scientific departments in many universities. The proposed Center offers the opportunity of reorienting some of these boundaries as well as profiting by the stimulating and rapid progress

that often develops at the interfaces of scientific disciplines.

We feel that a new venture of this sort has its greatest chance of success if implemented by degrees. The decision to focus on the Institute of Molecular Sciences among the first appears a sound one. In the development of this Institute as a prototype flexibility should be maintained and gellation of policy by preoccupation with organizational detail should be avoided.

The suggested fields of activity of the Institute of Molecular Sciences, namely, physics, chemistry, biology, mathematics of communication and information, with support from special instrumentation and electronics, while unusual, appears particularly effective. This plan offers the advantage that it can be promptly implemented because there already is in being in Dallas a biologic program under the guidance of Dr. Montgomery. His program encompasses extensive blending of biology, physics, chemistry and special instrumentation. It might well be utilized as the initial focus with perhaps one senior scientist from another of the appropriate program areas being added each year until the organization of the Institute of Molecular Sciences has been rounded out.

This suggested pattern of development takes advantage of the fact that the Southwestern Medical School, in which Dr. Montgomery's program is being carried on, is the principal academic focus for higher education in that portion of the state and by its tie with the University of Texas provides a potential pattern for the effective interplay of the Institutes and the universities of the Southwest.

It is important that the Institute not be alien to its environment but work with harmony and contact with the various academic and scientific groups of the Southwest. Once this principle is established and accepted, every effort should be made to bring in senior scientists. In this regard it would be desirable to obtain a distinguished overseas scientist of international reputation.

A list of names of effective group leaders has been suggested. To attract any of these or others like them, strong motivations must be provided. Important in these motivations are:

- 1) The challenge of a new type of scientific educational adventure.
- 2) Adequate compensation (for key personnel in the range of

\$25,000 to \$35,000 with liberal fringe benefits).

3) Adequate space, adequate equipment, and supporting personnel.

The hope that faculty members of other institutions could be motivated to work at such an Institute for short periods of time is a realistic one. Eventually it might be possible to extend a system of visiting professorships not only to the Southwest but to personnel from South or Central America as well.

With the continuing public approval of the present and projected national policy of support of scientific research, we believe it will be ultimately possible for a major proportion of the support of the Institute to be derived from grants and contracts. It is probably unnecessary to set any specific proportions between such funds and those of the Institute itself.

Until one or more Divisions of the Institute are organized and functioning, there will be relatively little chance of obtaining major public support. This is best obtained with the aid of a going, even if incomplete organization as well as some demonstrated achievement of

research results.

As a guide, we would estimate that a minimum of \$400,000 a year should be available, exclusive of grants and contracts. These monies should be applied primarily to salaries of key personnel, and should be assured over a 10-year period. The total estimated annual budget at the end of five years is \$2,000,000.

If the above appears to you to be an adequate expression of our thoughts, this might well serve as our report. I realize we have not directly exchanged views, and accordingly, please feel free to comment to me on this draft.

Sincerely yours,

Shields Warren, M.D.